IN THE DRAWING(S):

The attached sheet of drawing includes changes to Figure 1. This sheet replaces the original sheet showing Figure 1 .

Attachment: Replacement Sheet.

REMARKS

Reconsideration and allowance of the present patent application based on the following remarks are respectfully requested.

Claims 1 and 7 have been amended herein merely to correct minor clerical errors without the intention of narrowing the scope of the claims. No new matter has been added. Accordingly, after entry of this Amendment, claims 1-22 will remain pending in the patent application.

The drawings were objected to under 37 C.F.R. 1.84(p)(5). Applicant has amended Fig. 1 to add the reference character "10" mentioned in the description. Attached is a replacement sheet containing the amended Fig. 1.

Accordingly, reconsideration and withdrawal of the objection to the drawings are respectfully requested.

Claims 1-5, 7-16 and 18-22 were rejected under 35 U.S.C. §103(a) based on U.S. Pat. No. 4,459,436 to Rubin in view of U.S. Pat. No. 6,181,775 to Bella. Applicant respectfully traverses this rejection for at least the following reasons.

The Examiner contends that Rubin teaches at least two network connection devices each being constructed and arranged to output serial electrical signals corresponding to signals received from a network to which the connection apparatus is in use connected. The Examiner further contends that Rubin discloses at least two solid state switches, each being constructed and arranged to receive serial electrical signals output by respective ones of the network connection devices.

Rubin is directed to a telephone subscriber loop test system. Such a system is intended for measuring analog performance of telephone wires between an exchange and one or more subscribers. Rubin is predominantly concerned with the measurement and interpretation of the data. Rubin also describes how analog signals are generated and measured by the test system. Referring to Fig. 2 of Rubin, a front end computer 221 is connected via a data link 921 to a data communication network (DCN) 140. There are provided data links 930 between the DCN 140 and various wire centers 150. The wire centers 150 include switches 170 having connections 180 to customer equipment 190. The front end computers 221 interact with a data storage computer 200 to retrieve pertinent data regarding subscriber loops to be tested (see col. 12, lines 14-16 in Rubin). The architecture

depicted in Fig. 2 allows any front end computer to test any customer loop within the area served by the mechanized loop testing system (see col. 12, lines 32-37 in Rubin). Clearly, the system of Rubin is very specific and has a narrow application in analog telephony.

The examiner refers to Fig. 23 of Rubin. Fig. 23 of Rubin shows a block diagram representation of the "measurement processor" of Figure 17 (see col. 8, lines 40-41). Fig. 17 depicts, in block diagram form, the circuitry comprising one precision measurement unit (PMU) of Fig. 11, which itself depicts a realization of the loop testing system (LTS) shown pictorially in Fig. 2.

The Examiner concedes that Rubin does not teach each switch is controllable such that signals can be selectively output and received at another switch for return to the network. The Examiner, however, contends that Bella teaches each solid state switch being configurable such that electrical signals corresponding to signals received from the network can selectively be output by the solid state switch and received at the other or another of the solid state switches for return to said network by said other or another of the solid state switches. The Examiner contends that one of ordinary skill in the art would have been motivated to combine the teachings in Bella (that the switches are controllable to selectively output for return to the network) and Rubin in order to provide for a single apparatus that can be used to test both a line and an equipment through remote control input. Applicant respectfully disagrees.

There is no suggestion, motivation or reason why one of ordinary skill in the art would provide the configurable switches from Bella, which relates to high level circuitry of an ADSL system, in the circuitry (MUXes) of Fig. 23 of Rubin which relates to the internal microprocessor configuration within a precision measurement unit (PMU), within a telephone loop testing system, etc. Indeed, the MUXes in Rubin function to prepare analog signals for digital filtering in DSP processor 3600 (see Fig. 17 and col. 43, lines 20-25 and col. 48, lines 20-23 in Rubin) whereas the switches in Bella are used to control a connection between a network port to a customer port (see col. 3, lines 45-48 in Bella).

One of ordinary skill in the art would not have been motivated to combine the teachings of Bella and select one feature related to the switches in the network interface unit in Bella and apply the switching feature in Bella to a multiplexer of Rubin provided within a programmable tester for measuring network characteristic as the multiplexer in Rubin is specifically used to prepare analog signals for digital filtering in DSP processor 3600.

Therefore, in the absence of impermissible hindsight based on Applicant's own disclosure, there is no motivation or suggestion to combine the teachings of Rubin and Bella.

In one embodiment, the switches recited in claim 1 can provide for a simple and flexible connection topology. In one embodiment, the connection apparatus can be connected to or formed as part of the "front end" of a network tester or analyzer so that the tester or analyzer can be connected to a network to operate in in-line or end station mode at the option of the operator. Such arrangement is neither disclosed nor suggested by the cited prior art.

Neither Rubin nor Bella, alone or in combination, disclose, teach or suggest the subject matter recited in claim 1. Therefore, Applicant respectfully submits that claim 1 is patentable over Rubin and Bella, taken alone or in combination.

Claims 7, 12 and 18 are also patentable over the combination of Rubin and Bella for at least the reasons provided above with respect to claim 1.

Neither Rubin nor Bella, alone or in combination, disclose, teach or suggest, *inter alia*, "two port bypass circuits, each port bypass circuit having at least three output ports, each port bypass circuit being constructed and arranged to receive serial electrical signals output by a respective one of the network connection devices and to output a corresponding serial electrical signal on a first of its output ports; wherein each port bypass circuit is controllable such that electrical signals corresponding to signals received from said network can selectively be output on a second of the output ports of the port bypass circuit and received at the other port bypass circuit for return to said network via a third of the output ports of the other port bypass circuit," as recited in claim 7.

Neither Rubin nor Bella, alone or in combination disclose, teach or suggest, *inter alia*, "selectively controlling each solid state switch such that electrical signals corresponding to signals received from the network are output by the solid state switch and received at the other or another of the solid state switches for return to the network by said other or another of the solid state switches whereby the apparatus operates in in-line mode, or such that electrical signals corresponding to signals received from the network and output by each solid state switch are not received at the other or another of the solid state switches whereby the apparatus operates in end station mode," as recited in claim 12.

Neither Rubin nor Bella, alone or in combination disclose, teach or suggest, *inter alia*, "selectively controlling each port bypass circuit such that electrical signals corresponding to signals received from the network are output on a second of the output ports of the port bypass circuit and received at the other port bypass circuit for return to the network via a

third of the output ports of the other port bypass circuit whereby the apparatus operates in in-line mode, or such that electrical signals corresponding to signals received from the network and output by each port bypass circuit are not received at the other port bypass circuit whereby the apparatus operates in end station mode," as recited in claim 18.

Therefore, Applicant respectfully submits that claims 1, 7, 12 and 18, and claims 2-5, 8-11, 13-16 and 19-22 which depend from either claim 1, claim 7, claim 12 or claim 18, are patentable over the combination of Rubin and Bella. Thus, it is respectfully requested that the rejection of claims 1-5, 7-16 and 18-22 under 35 U.S.C. §103(a) over the combination of Rubin and Bella be withdrawn.

Claims 6 and 17 were rejected under 35 U.S.C. §103(a) based on Rubin and Bella in view of U.S. Pat. No. 5,544,319 to Acton *et al.* (hereinafter "Acton"). Applicant respectfully traverses this rejection for at least the following reason.

Claim 6 depends from claim 1 and claim 17 depends from claim 12. Therefore, for at least the reasons provided above with respect to claims 1 and 12, Applicant respectfully submits that claims 6 and 17 are patentable over the combination of Rubin and Bella.

Acton fails to overcome the deficiencies noted above in the combination of Rubin and Bella. Acton discloses a fiber optic memory coupling system with converter transmitting and receiving bus data in parallel fashion and diagnostic data in serial fashion.

Consequently, none of Rubin, Bella or Acton, alone or in combination, disclose, teach or suggest the subject matter recited in claims 6 and 17. Thus, it is respectfully requested that the rejection of claims 6 and 17 under 35 U.S.C. §103(a) over the combination of Rubin, Bella and Acton be withdrawn.
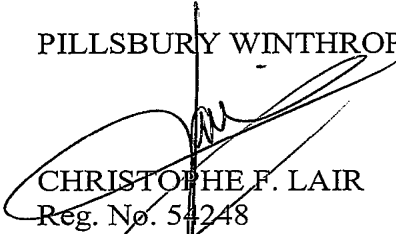
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## CONCLUSION

Applicant has addressed the Examiner's rejections and objection and respectfully submits that the application is in condition for allowance. A notice to that effect is earnestly solicited.

If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP

CHRISTOPHE F. LAIR
Reg. No. 54248
Tel. No. 703.770.7797
Fax No. 703.770.7901

JSB/CFL/KG
P.O. Box 10500
McLean, VA 22102
(703) 770-7900

Encl: Replacement drawing FIG. 1

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